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ABSTRACT

Reports are given on activities of the Scottish Council for Research in Education. Included are the Chairman's Report and those of the Finance and General Purpose Committee, Communications Committee, and the Research Committee. Summaries are presented of research projects involving: (1) primary school teaching strategies; (2) students' awareness of educational opportunities; (3) mathematics surveys; (4) Craigroyston Curriculum Project; (5) community schools in the Lothian Region; (6) young adults in Scotland; (7) further education for the handicapped; (8) evaluation of a local authority assessment initiative; (9) evaluation of links established between primary schools and nonformal education agencies; (10) Primary Teaching Practice Project; (11) further education colleges and changing student needs; (12) teaching writing for learning; (13) assessment of mathematics; (14) changes in the fifth year of school; (15) falling enrollment in Scottish secondary schools; (16) Scottish Restandardisation of the WISC-R (1982); (17) education for the community; (18) Lothian Region Ergonomics Project; (19) induction, assessment, and guidance in Youth Training; and (20) Pakistan Primary Education Project. Also included in this annual are reports from the Research Service Unit; Schools' Assessment, Research, and Support Unit; and EURYDICE (an information unit). Information on research prizes, liaisons with other organizations, papers delivered at conferences, staff publications, and accounts is also presented. (JD)

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THE SCOTTISH COUNCIL FOR RESEARCH IN EDUCATION

ED238837

FIFTY-FIFTH ANNUAL REPORT 1982-83

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ISSUED SEPTEMBER 1983

THE SCOTTISH COUNCIL FOR RESEARCH IN EDUCATION

FIFTY-FIFTH ANNUAL REPORT
1982-83

Offices:
15 St John Street, Edinburgh, EH8 8JR
Telephone: 031-557 2944

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Andrew F McPherson, BA, Centre for Educational Sociology, University of Edinburgh
John Hume, CA, ACMA, United Wire Group Ltd, Edinburgh
Margaret Cameron-Jones, MA, MEd, Moray House College of Education, Edinburgh
William R Dunn, BSc, MEd, Department of Education, University of Glasgow

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Malcolm R Green, MA, DPhil, Strathclyde Regional Council

Nominated by the Association of Directors of Education in Scotland
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John G Mulgrew, BSc, Strathclyde Regional Council (*until 15.10.82*)
D I M Sutherland, MA, MEd, Highland Regional Council (*from 16.10.82*)

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Sister Margaret Sheridan, SND, BA, St Andrew's College of Education, Bearsden, Glasgow
William A Illsley, BA, MA, PhD, Dundee College of Education

James M Ewing, MEd, BSc, ABPsS, Department of Psychology, Dundee College of Education (*from 1.6.83*)

Nominated by the Scottish Universities

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Donald I McIntyre, MA, MEd, Department of Education, University of Stirling

Noel J Entwistle, BSc, PhD, FBPS, Department of Education, University of Edinburgh (*until 31.5.83*)

Leo B Hendry, MSc, MEd, PhD, Department of Education, University of Aberdeen (*from 1.6.83*)

Nominated by the Scottish Examination Board

Melville R M Hendry, MA, Scottish Examination Board

Nominated by the Educational Institute of Scotland

Henry L Philip, MA, BA, FEIS, Liberton High School, Edinburgh

Helen M Tonner, DCE, St Mungo's RC Primary School, Jacks Road, Saltcoats, Ayrshire (*until 31.5.83*)

Thomas J H Fenton, BA, 73 Morningside Park, Edinburgh (*until 31.5.83*)

Thomas M Linton, MA, MEd, FEIS, Moray House College of Education, Edinburgh (*from 1.6.83*)

William Shaw, BSc, DipEd, Chapelside Primary School, Airdrie (*from 1.6.83*)

Nominated by Teacher Organisations other than the EIS

Aileen Moyes, DCE(Froebel), Flora Stevenson Primary School, Edinburgh

Robert Reid, MA, Musselburgh Grammar School, Musselburgh

Assessors from the Scottish Education Department

J Linn, New St Andrew's House, Edinburgh

R Merrall, New St Andrew's House, Edinburgh

J G Morris, HMCI, New St Andrew's House, Edinburgh

W Nicol, HMI, New St Andrew's House, Edinburgh

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W Bryan Dockrell, BA, MEd, PhD, FEIS

Depute Director
Gerard J Pollock, MA, MEd, MInstP, FEIS

Assistant Director
John L Powell, MA, MEd

OTHER STAFF (as at 30th June 1983)

Research
Harold Black, BSc, MEd
Malcolm Corrie, BA, MA, DipEd
Jim Crowther, BSc, MA
Sheila Day
Brian Duncan, MA, MSc
John Hart, BSc
Jill Johnstone, MA
Tom Leach, BA, MSc
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Doreen McNaught
Carolyn Millar
*Marie Thomas
Hilary Thompson
Valerie Tibbetts
*Kay Young
May Young

*Part-time

CHANGE OF PUBLISHER

The long-standing arrangement whereby SCRE's Series 1 publications have been published and distributed for SCRE by Hodder & Stoughton Educational Ltd is being terminated with effect from 31st December 1983. The publications will remain available, however, being published and distributed by SCRE itself—as is already the case with Series 2 publications.

Transitional arrangements are already in operation with all publications available direct from SCRE. Orders to SCRE from booksellers will receive normal trade discounts.

A full list of currently available publications will be found on pp 59-61.

THE SCOTTISH COUNCIL FOR RESEARCH IN EDUCATION

Fifty-fifth Annual Report 1982-83

COUNCIL (Chairman — Mr Hugh Fairlie)

Chairman's Report

The range of research work undertaken by the Council in 1982-83 is very wide, and reflects many of the issues which are of on-going concern to those engaged on the provision of education in Scotland in what must be the most rapid period of change for many years. The Council is aware, however, that perhaps the two areas currently of most concern are the provision of a satisfactory programme for the 16-19 year olds group of students and the construction of more satisfactory and acceptable methods of assessment than have been in use previously and which are not consonant with the needs of our times.

The Council can certainly make its contribution to discussion of these problems and indeed must do so. In the past year a study entitled "Changes in the Fifth Year of School" has been funded from our own resources and consists of case studies of a small number of schools which had developed specific programmes to cater for pupils who did not wish—or were unable—to pursue the traditional academic courses provided in the fifth year of secondary school. A report will be published towards the end of 1983. Secondly, research is being undertaken, funded by the Scottish Education Department, in some aspects of post-school education. The first of these is a study of new types of course being introduced in FE Colleges for students who would not have enrolled in those which have been the normal pattern, and the second, entitled "Induction, Assessment and Guidance in the Youth Training Scheme" investigates college-based schemes in four colleges. Furthermore, we have proposed for funding certain studies of employer-based training schemes and a study of a national diploma course. In these, and in other ways, the Council has in mind a broadly based approach to the question of education for the 16-19 year olds.

Referring now to the issues of assessment, the Council has created a Schools Assessment Research and Support Unit, whose function will be

to co-operate with Local Authorities and, where appropriate, Colleges of Education, in the preparation of diagnostic material for subjects where these do not already exist; also to work with the advisory services in the various Regions to help schools make the best use of such material. This unit has developed from the work of the Council over the past six years and which has resulted in the publication of various booklets. The most recent of these is that entitled *A Diagnostic Resource in Geography*, which represents a new departure from the usual publishing policy of the Council in that the material is made freely available to schools that purchase it to select and copy to suit their own purposes with normal copyright restrictions being deliberately waived by the Council. A further booklet, on Home Economics, will be available later this year. It is significant to note that, provided that the recommendation made by the Education Committee of COSLA is accepted by each of its constituent Authorities, this Unit will be funded jointly by these Authorities and the Scottish Education Department.

The Council would wish once more to acknowledge not only the very considerable grant provided by the Scottish Education Department to cover costs and overheads and the funding provided for many of our projects but also the invaluable assistance and advice offered by the officers and HMIs who act as assessors on the Council. Finally, to the Director and the staff of the Council must be extended our appreciation of what has been in some ways a difficult year but still one of solid endeavour and achievement.

REPORTS OF CHAIRMEN OF COMMITTEES

Finance & General Purposes Committee (Chairman: Mr J Hume)

Although there is a deficit of £2,427 in the year, this is small relative to the total expenditure of £553,000. The basic grant from the Scottish Education Department was increased to meet the salary increases resulting from the Civil Service salary negotiations but specially funded research projects declined, with the drop being mainly in projects sponsored by SSRC. A major purchase of equipment during the year was that of two Display Writers and a micro-processor and this equipment will be of great benefit in increasing capacity and reducing costs. As will be seen from Office Furniture and Equipment on page 40, SED contributed half the cost of this new equipment.

Supplementary information is:

No remuneration is paid by the Council to its officers or members but travelling expenses were reimbursed to the extent of £2,325.

Corresponding amounts for employees were:

Officials	£3,996
Internal Programme	£5,719
Externally Funded Projects	£10,711

Funding 1983/84

As forecast in last year's report, our budget includes further economies but once again the basic grant from SED and other sources will enable the Council to balance income and expenditure without any reduction in staff paid from basic grant. Specially funded projects are currently projected to show a further drop but strenuous efforts are being made to develop new projects and, hopefully, those efforts will be rewarded.

Staff Negotiations

The Committee are very conscious of the necessity to keep staff informed of the financial position of the Council and we appreciate the co-operation received from all levels of staff. Just after the completion of the financial year an agreement on security of employment was finalised with the Association of Scientific, Technical and Managerial Staff (ASTMS). Hopefully, the procedures outlined in this agreement will not require to be followed but such an agreement is a forward step in staff co-operation. The Committiee acknowledges the help from the Council officials and the Union representatives in being able to conclude, successfully, this agreement.

Communications Committee (Chairman: Mr S Magowan)

When a report is presented annually, there is a tendency to concentrate on what is new rather than to report yet again those features of the work of Information Services that differ little from year to year. Still, it is those very activities that are judged to be most valuable that are maintained from year to year. Prominent amongst these is the publication of books — most of which arise from completed research projects — and of the twice yearly newsletter, *Research in Education.*

The latter aims to bring to a very wide audience at least some knowledge of the outcomes of research projects and, from time to time, to review research findings from many sources and/or to elucidate some complex issue. Thus, for example, in *Research in Education 29,* Ernest Spencer presented some salient facts and arguments arising from his new book *Writing Matters, across the Curriculum* and, at the same time, discussed important ideas concerning learning and the relation to it of independent writing, while, in the previous issue, the Assistant Director considered, in an article entitled 'Do Numbers Count?', the relative advantages of survey and case-study research and their respective limitations. It is worthy of incidental note that the newsletter serves not only as a direct means of communication but as the principal source of publicity for SCRE publications: a very substantial proportion of sales can be with certainty attributed to it.

Three new books have been published during the year: *Writing*

Matters, On Leaving School, and *Classroom Management Strategies.* Of these, *On Leaving School* is notable for being the third of a series arising from a longitudinal study by Alexander Ryrie. In addition three booklets were published—*Soft Skill Competencies* (the text of a public lecture given under the auspices of SCRE), *Management and Organisation in a Variety of Open-Plan Primary Schools* (a report of a college-based project), and *Scottish Museums of Education* (the text of a committee report to COSLA). A seventh publication, *A Diagnostic Resource in Geography,* which consists of a set of criterion-referenced tests (derived from the Diagnostic Assessment Project) and an associated booklet, deserves special mention on account of certain novel features. Publishing tests with accompanying manuals is, of course, an unremarkable activity, but in this case special steps have been taken to meet, in so far as possible, the needs of schools with differing courses and different 'learning objectives'. Thus a large number of tests (each with its clearly stated learning objectives) is provided, together with answer grids, ready for photocopying as required, so that teachers may select those that fit their needs. An important feature of the provision is that schools that purchase the Resource are given permission to reproduce these copyright materials for their own internal use.

The most important new activity undertaken by SCRE's Information Services Unit is its undertaking on a regular basis work for EURYDICE (the Educational Information Network in the European Community) at the request of the Scottish Education Department. The arrangement is initially for one year, but, subject to satisfactory financial arrangements being made, it is likely to be extended thereafter. The function of the EURYDICE system is to supply policy makers within the European Community with information concerning policy and practice in member nations. Individual local authorities, for example, may request such information, and answers are then obtained either by reference to information already gathered or by means of enquiries directed to some or all of the national agencies. Although it is a function of the central agency in Brussels to ensure that the requests made do not impose unreasonable burdens on national agencies, it is the desire of all concerned that the system should be fully used, and it will be one of the functions of SCRE to bring to the notice of Scottish local authorities the facilities available to them. SCRE involvement in EURYDICE is not, of course, an entirely new activity: SCRE has previously undertaken specific enquiries referred to it by the SED. The full role now being undertaken is however clearly new.

A major undertaking on the part of Information Services in April 1983 was an exhibition of books at the meeting in Montreal of the American Educational Research Association. In addition to SCRE's own publications, books relating to educational research in Scotland or by Scottish researchers working outside Scotland were shown.

Recognising the need likely to be experienced by parents in

comprehending the information with which schools must now provide them concerning the performance of their pupils in the Scottish Certificate of Education, SCRE issued in January 1983 an explanatory leaflet by Henry Philip, Chairman of the SCRE Research Committee. Copies of it have been made available to schools and individuals at cost price and schools have been encouraged to copy it in whole or part for their own use.

In the forthcoming year, a substantial number of new publications is scheduled and a number of conferences for teachers and advisers planned. Most notable amongst the latter will be a series to be given in September 1983 in a number of locations by Professor James Popham, University of California at Los Angeles, a noted authority on criterion-referenced assessment.

Research Committee (Chairman: Mr H L Philip)

Much of the year's work has been concerned with consideration of proposals for new research projects emanating from staff and consultative processes with other organisations.

Despite increasing financial constraints the Council has been able to maintain a wide ranging research programme. During the year 1982-83 nineteen projects were in progress of which fifteen were externally funded. New projects begun during the year included Induction, Assessment and Guidance in Youth Training Schemes (p 27), Education for the Community (p 26), Falling School Rolls (p 24) and Changes in the Fifth Year of School (p 24). The last two projects were funded from the Council's internal funds and were designed as short term pilot studies aimed at the development of full-scale research projects. Full details of the research programme can be found on pages 15 to 28.

In 1982-83 grants to the Council from external sources for specific projects amounted to approximately £235,000, the main contributors being SED (£147,000), Van Leer Foundation (£41,000), SSRC (£25,000), British Council (£12,000) and Lothian Region (£10,000). This represents a reduction of 21% in external funding by comparison with the previous year.

In 1983-84 we currently have thirteen projects in our programme (ten externally funded) but a number of proposals are being considered for funding by external sources. We anticipate that some of these will be successful in securing financial support. At the same stage last year fifteen projects were under way but four more were initiated during the course of the year.

As regards funding, we currently have support to the value of £214,000. Provided expectations are realised we should be able at least to maintain the 1982-83 position and possibly make a start to building up the Council's external programme to its previous level.

SUMMARY REPORT OF SCRE PROJECTS

Title of Project	*Principal Research Worker(s)*	*Starting Date*	*Approximate Duration*	*Source of Finance*	*Report Page*
Teaching Strategies in the Primary School	J L Powell	1973	10 yrs	SCRE	15
Awareness of Opportunity	A C Ryrie	1976	6 yrs 8 mths	SED/SCRE	15
Second International (IEA) Mathematics Survey	G J Pollock W G Thorpe	1978	4 yrs	SCRE	16
Evaluation of the Craigroyston Curriculum Project	A Peacock	1980	3 yrs	Van Leer	16
Community Schools in Lothian Region	A Peacock	1980	2 yrs 6 mths	LA	17
After School—a Study of Young Adults in Scotland	G J Pollock	1980	2 yrs	SED/SSRC	18
Further Education for the Handicapped	M Corrie	1980	3 yrs 3 mths	SED	19
Evaluation of a Local Authority Assessment Initiative	H D Black	1980	3 yrs	SED/LA	20
Evaluation of Links between Primary Schools and Non-Formal Education Agencies	J Raven	1981	1 yr 10 mths	SED	20
Commentary on the Primary Teaching Practice Project	J Raven	1981	2 yrs	SED	21
Further Education Colleges and Changing Student Needs	A C Ryrie	1981	2 yrs 2 mths	SED	21
Writing Across the Curriculum, Stage 2: Teaching Writing for Learning	E Spencer	1981	3 yrs 1 mth	SED	22
Assessment of Mathematics 1983	G J Pollock B Duncan	1982	2 yrs 6 mths	SED	23
Changes in the Fifth Year of School	A C Ryrie	1982	6 mths	SCRE	24
Falling Rolls in Scottish Secondary Schools	I MacFadyen	1982	6 mths	SCRE	24
The Scottish Restandardisation of the WISC-R	W G Thorpe	1982	3 yrs	SCRE	25
Education for the Community	A Peacock	1982	1 yr 4 mths	Van Leer	26
Evaluation of the Lothian Region Ergonomics Project	M Corrie	1983	1 yr 6 mths	LA	26
Induction, Assessment and Guidance in the YTS	A C Ryrie	1983	1 yr	SED	27
Pakistan Primary Education Project —Consultancies	A C Ryrie	—	—	British Council for World Bank	27

Note: LA = Local Authority

REPORTS ON PROJECTS

(Additional information on any of the projects will be supplied on application)

Teaching Strategies in the Primary School

J L Powell (Principal Researcher)

This major project, which is now close to completion, has been concerned primarily to secure greater understanding not of separate teaching skills—important as many of them may be—but of them combined and interacting. In so doing, this project has moved in a direction contrary to that of much classroom based research in the last decade and, in order to follow this different course, has had to construct many of its own instruments of assessment and find appropriate means of analysing the data so obtained.

The analysis of the large amount of data obtained is now virtually complete and the final report is in preparation. The most important part of the report will relate to what has been discovered about the teaching practices of 128 primary teachers whose teaching was observed and recorded using the SCOTS Schedule. (The SCOTS Schedule was designed in the course of the project to provide a global, yet detailed, description of 43 aspects of teaching thought to be likely in combination to create the 'teaching experience' of pupils in primary school classes.)

Other data to be reported relate to the performance of the pupils in each class both before and after approximately one year's exposure to the teaching strategies sampled during the observations. The measures used sought to measure the attitudes of the pupils, their application to work where making an effort to understand was involved, their grasp of arithmetic concepts, and their attainment of corresponding computational skills. On the basis of these data, attempts were made to find evidence of general relationships between, on the one hand, pupil attitudes, application, and attainment and, on the other, the type of teaching they have received. In addition to describing what was discovered, the report will seek to evaluate the usefulness of the types of measures employed.

The report will, it is hoped, be found to have particular relevance to the assessment of teaching and to the pre-service and in-service training of teachers. Publication of the report is provisionally scheduled for late 1983.

Awareness of Opportunity

A C Ryrie (Principal Researcher), J Hunt, P Small, E Gordon

The purpose of this project (which has now been completed) has been to follow up two cohorts of young people from their second year at school until a year after they left, in order to examine the development of

their intentions for the future and the process of decision-making about courses and subjects at school; and to assess the influence of home and parents, of careers guidance programmes and of opportunities in the local labour market on the young people's decisions.

Nearly 1,200 young people in two successive year groups were selected for the study which was based on eight schools in two different areas of Scotland. Information was gathered by means of interviews with the young people at various stages and with parents and teachers. Information about the young people's progress through school and their destinations after school, and about the schools' guidance procedures, was also gathered. A study of the attitudes and policies of employers with regard to the employment of young people was also undertaken.

The project was completed in October 1982. The reports (published by SCRE) deal with:

(a) the process of subject choice at the end of the second year (reported in *Choices and Chances: a study of pupils' subject choices and future career intentions*, A C Ryrie, A Furst and M Lauder, 1979);

(b) decision making in the later years of schooling (*Routes and Results: a study of the later years of schooling*, A C Ryrie, 1981);

(c) how they came to occupy different positions after they left school (reported in *On Leaving School: a study of schooling, guidance and opportunity*, A C Ryrie, 1983);

Employing Young People, J Hunt and P Small, 1981, reported the study of employers' attitudes and practices. Various journal and newspaper articles have also appeared.

The Second International (IEA) Mathematics Survey
G J Pollock, W G Thorpe (Principal Researchers), S Freshwater, D Scott, J Chambers

The objective of this project, which started in 1978, is a systematic investigation of the relationships between performance in mathematics at secondary school and factors such as home background, characteristics of the school system and pupil motivation. An historical comparison with the First International Mathematics Study of 1964 is also intended with particular emphasis on the effect of changing to a comprehensive school system. Information is being gathered by means of a large-scale survey of random samples of pupils and their teachers in S2, S4 and S5/6. Data collection and checking were completed in 1981/82, and analysis has proceeded throughout 1982/83. Reports on the outcomes are currently being drafted.

Evaluation of the Craigroyston Curriculum Project
A Peacock (Principal Researcher), J Crowther (SRO: A C Ryrie)

The project is an external evaluation, commissioned by the Bernard van Leer Foundation, of the programme which they are funding at

Craigroyston High School in Edinburgh to facilitate its evolution into a community school. Its purpose is to provide policy-orientated feedback as support for those involved within both school and community and, at the same time, to attempt to monitor the effectiveness of the evaluation model in such a context. The evaluation strategy is essentially qualitative, using a variety of data-gathering techniques to monitor the complex network of activities and interaction within school and community. The evaluators have emphasised close and continuous involvement in both these areas, alongside regular feedback through discussion papers and reports, as means of focusing attention on key questions and issues to be resolved. However, during 1983, the final year of the project, a shift of emphasis towards validation of earlier findings will take place.

Whilst the above strategy has generated considerable evidence and insights acknowledged to be of value to those managing the school's development programme, the prolonged and close involvement with a single institution in an action research role has also created some difficulties in relationships. Moreover, the rapidly changing context in which the development is taking place has heightened the importance of monitoring the dynamics of interaction between school, Region, funding body, community and evaluators, especially in those areas where effective progress has clearly been made.

Two Annual Evaluation Reports and discussion papers on the following subjects are available on request from the evaluators:

(1) Teachers' Attitudes and Involvement.
(2) Management Structure and Function as Perceived by Working Party Members.
(3) Cultural Activities and Community Development.
(4) The Appointment of an Adult Basic Education Worker.
(5) Collaboration in Community Events.
(6) What is a Community School?
(7) Lessons from the 'Open Forum': A Study in Relations between Evaluators and Project Directorate.

Community Schools in Lothian Region

A Peacock (Principal Researcher), M Vallely (SRO: A C Ryrie)

This has been an exploratory study of the four community schools in Lothian Region, with the aim of illuminating the way in which the community school has been interpreted and developed. Research has sought to highlight the impact of development on the statutory aspects of schooling and the implications for participants (ie pupils, teachers, adult students). A variety of data collection techniques has been adopted in order to provide as broad a view as possible, including historical analysis of official documents, interviews, questionnaires, observations and cost analysis. As the research has progressed a number of key issues has been identified, and attention has been progressively re-focused to take these into account.

The project, which began in April 1980, is now complete, a report having been presented to Lothian Region in late 1982. A SCRE publication is currently being prepared. The report's principal conclusion is that the successful development of community schools is related to a degree of open-endedness in both philosophy and process of development, and to the existence of clearly-defined organisational frameworks which support this. The final chapter attempts to establish the implications of various alternative ways to extend such open-endedness in order to promote the continued development of community schools.

After School — A Study of Young Adults in Scotland
G J Pollock (Principal Researcher), M Hutchings, D MacDonald, S Day, M Ireland

This project is an extension of the longitudinal study of the age-cohort previously involved in the Trends in Secondary Education Project which was funded by SSRC from 1974-79. The extension covers the period 1979-81 and provides a detailed picture of (a) the education, employment and training undertaken by young adults in Scotland up to age 22 and (b) how far previously expressed aspirations and expectations are matched by real-life experience in seeking and finding employment. Comparisons of the educational training and employment opportunities available to boys and girls are also being studied.

The study is based on a follow-up of a selected group of 926 young people from the original cohort of 1,950. The follow-up group is made up of three main sub-groups:

(1) those who entered full-time courses of study after leaving school;
(2) those who entered employment with Higher Grade SCE qualifications;
(3) those who left school and entered employment with O-Grade qualifications or none.

Data was collected through a structured interview covering five main areas:

(a) employment
(b) unemployment
(c) further education and training
(d) full-time post-school education
(e) general/future aspirations

Interviewing was carried out between May and October 1981 and a total of 685 interviews (74% of the selected sample) was finally achieved. Only 7% of the original group of 926 refused to participate, the others being not contactable for various reasons, eg illness, living out of Scotland, or present address unknown.

Changes of personnel during the year caused some delays in the analysis of the data. Within the time-scale of the external funding it has only been possible to undertake a preliminary analysis. More time is

required to undertake a deeper more detailed analysis of the data base, if maximum benefit is to be obtained. The Advisory Committee has asked the Research Committee to consider making additional funds available to enable this work to be carried out.

A preliminary report of the study will be presented to SSRC and SED in the autumn.

The project was funded jointly by the Scottish Education Department and the Social Science Research Council.

Further Education for the Handicapped

M Corrie (Principal Researcher), S Zaklukiewicz (SRC: W B Dockrell)

The project, which is funded by the Scottish Education Department, is generally concerned with developments in educational provision for mentally handicapped and physically handicapped young people. The focus is on developments in schools, colleges of further education, and adult training centres considered to be of particular interest and value to those working in this area of the educational service. Specifically, the aim of the project is to produce an account of such developments which will serve as a useful and illuminative guide, by describing what is being attempted, by indicating problems and constraints, and by suggesting modifications where appropriate.

The project comprises four studies, each dealing with a different aspect but linked in having a bearing on the common theme of efforts to meet the educational needs of handicapped young people. The first study is focused on leavers' programmes specifically developed in a variety of special schools, including vocational elements in the curriculum and methods of teaching and materials found to be useful. The second is looking at the provision of special and modified courses for mentally handicapped and physically handicapped students in a number of colleges of further education. The third is focused on efforts in a range of adult training centres to develop a substantial educational component as part of their overall programme of activities. The fourth is following the progress of a group of leavers from special schools to identify their entry to post-school education and employment.

A short working paper on the first study *Leavers' Programmes for Special Needs,* describes the content of the leavers' programmes and discusses some of the approaches to the provision of practical experience which schools have found useful, such as activities in the local community, residential visits, link courses, etc. The paper also discusses two specific areas of the provision of leavers' programmes, careers education and sex education, which are raising issues for schools at the present time. Another working paper on the first stage of the fourth study *Leaving Special School,* available later this year, describes the results of a questionnaire survey of the leavers. This covers their views on preparation by schools for leaving, attitudes to further education, job expectations, family reactions to leaving, changes in their pattern of

friendships. A number of issues likely to face the leavers, such as getting work, continuing with their education, and access to services, are also discussed. Further work on the fourth study and on the second and third studies is due to be completed in 1983.

Evaluation of a Local Authority Assessment Initiative
H D Black (Principal Researcher), D Alexander, E Boyle, R Goring (until August 1982) (SRO: W B Dockrell)

As a consequence of the deliberations on the reports of the Munn and Dunning Committees the Lanark Division of Strathclyde Regional Council was engaged during the period 1980-83 in a broad programme of training for senior management both within and outside the schools and the creation of materials for school based assessment. As a consequence each secondary school in the Division worked towards the creation of a comprehensive schools assessment policy.

The project set out to monitor and evaluate the initiative and in particular to address the following questions:

(1) What changes took place in the teachers' knowledge and understanding of assessment techniques during the period of study?
(2) How effective was the centrally directed initiative in persuading teachers to change or rationalise their practice?
(3) In what ways did schools, departments and groups of individuals vary in their reaction to the initiative?
(4) What was the reaction to innovative assessment approaches such as pupil profiling, diagnostic assessment, etc?

Three diets of extensive semi-structured interview were conducted at the beginning, middle and end of the project with a sample of teachers from each of five case study schools which formed the basis of the project design. In addition, interviews were conducted with education officers, advisers, headteachers and assistant headteachers throughout the Division. In all, more than 450 interviews each lasting more than an hour were analysed using a schedule specially developed by the team. The technique used allowed the integration of both qualitative and quantitative techniques in order to provide a sound basis for discussion of the issues.

The final report will be in the hands of the sponsors (The Scottish Education Department and Strathclyde Region) in the autumn of 1983. It is hoped that the experience gained by the Division in attempting to instigate such a policy of in-service training will be of value to other local authorities facing similar problems in the future.

An Evaluation of the Links established between Primary Schools and Non-Formal Education Agencies such as Edinburgh Zoo and The Royal Scottish Museum
J Raven (Principal Researcher), J Johnson, T Varley (SRO: J L Powell)

This project which finished in February 1983 has examined the

linkages which primary school teachers forge between their school-based work and out-of-school visits (which might include, but were not confined to, zoos and museums). The writing of a report on the findings of a postal survey of the extent and nature of out-of-school visits by primary schools in Lothian and Fife is already complete. The report on the project as a whole is in an advanced stage of preparation. In it, the probable effects of a variety of arrangements, as observed in schools which make many, a moderate number, and a few visits are discussed. The conclusions are however, broadly in line with those drawn by HM Inspectorate in the Primary 4 and 7 Survey. Few classes were found to make the number of visits recommended in the 1966 Primary Memorandum and, in the main, the visits monitored did not fully exploit the educational opportunities offered. Attempts to relate the visits to the rest of the work of the class were, moreover, commonly superficial. A minority of teachers did, however, make outstanding use of out-of-school visits to promote a wide variety of attainments. Their work is discussed in some detail.

Commentary on the Primary Teaching Practice Project
J Raven (Principal Researcher) (SRO: J L Powell)

The Primary Teaching Practice Project was set up under Margot Cameron-Jones at Moray House College as a pilot scheme to assess the feasibility of one interpretation of the Sneddon Committee's recommendations relating to the school-based component of teacher education.

The SCRE Commentary is intended as an outsider's view of the strengths, weaknesses and generalisability of the pilot programme.

Interviews have been conducted with students, teachers in schools, college lecturers, and members of the Advisory Committee on the Primary Teaching Practice Project. Parallel interviews have been conducted with other students, teachers and lecturers.

The final report is currently being revised with a view to publication.

Further Education Colleges and Changing Student Needs
A C Ryrie (Principal Researcher), P Small, T Leach, E Gordon

This project, which began in November 1981, is a study of how further education colleges are adapting and adjusting to changes in the employment situation, to the demand for new courses arising from high unemployment, and to the enrolment of students who might otherwise not have gone into further education. Case studies are being carried out in ten colleges in Scotland, with a view to exploring four issues: (a) the extent to which these developments are bringing about organisational change both within the colleges themselves and in their relationships with outside bodies; (b) whether the new courses are requiring changes in curriculum or the syllabus of courses, and in particular whether the

content of new courses is flexible enough to meet the needs of students; (c) the extent to which the introduction of new courses and new types of students is leading to an increased need for guidance, counselling and concern for personal development; (d) whether the new courses are leading to the development of new teaching methods and techniques, and to new styles of relationship between staff and students. Information on these topics is being gathered mainly by means of interviews with principals and staff of the colleges and by questionnaires to groups of students.

Field work on the project as it was originally designed is to be completed in the summer of 1983, but, in association with the project on Induction, Assessment and Guidance in the Youth Training Scheme, some further information about how the colleges are adapting to the start of the new Youth Training Scheme will be gathered in the autumn of 1983, and as a result this topic will also be covered in the final report. This report, expected in the first part of 1984, will discuss issues, problems and different approaches adopted in connection with the current developments in further education.

Writing Across the Curriculum, Stage II: Teaching Writing for Learning
E Spencer (Principal Researcher), C MacDonald

This project, which is funded by the SED, grows out of the recently completed descriptive study, Writing Across the Curriculum, Stage I, (which is itself reported in Ernest Spencer's recently published book, *Writing Matters, across the Curriculum.*)

Its aims are to establish, in collaboration with teachers, classwork designed to develop certain skills considered to be central to both writing and learning in various subjects, to describe the process by which this work is planned and implemented, and to evaluate its effects.

Case studies are under way in a number of schools. In each school, teachers of two subjects incorporate into their syllabus activities designed to help pupils develop skills which have been identified by teachers as important. These may include, for example, 'accuracy of definition', 'paraphrasing', 'note taking', 'summarising', 'organisation of ideas/ information', all aspects of writing mentioned by many teachers of various subjects in the earlier project as potentially falling within their responsibility. Besides their value in communicating information, these skills have evident functions in the process of grasping and clarifying ideas and integrating them with one's existing set of knowledge.

The researchers offer help in planning ways of enabling pupils to practise and improve both thinking and writing in the subjects concerned. The 'teaching' mentioned in the project title is understood very broadly to mean any activity intended to help pupils to become better motivated, more confident and more effective thinkers and writers. Accordingly, techniques and suggestions for writing activities are drawn from several sources.

As far as possible, the teaching is organised so that the same group of pupils experience the special writing activities in two subjects. Pupils in S3, S4 and S5 have been involved in the project and the subjects concerned are Chemistry, Physics, Business Studies, Home Economics, History, Geography and English.

The evaluation element in the work of the project consists in description of the effects of the teaching programme on pupils' performance, strategies for writing, and attitudes, and on the teachers' ideas about the place of writing in their courses. Information is obtained by interviews, by observation of the teaching, from records kept by the teachers, and by analysis of pupils' written work. Of particular interest are descriptions of the classroom use of techniques suggested by the researchers.

Some attention is also paid to pupils' general learning strategies, as well as to 'writing for learning'. This part of the work will serve as a 'pilot' exploratory study of a wider issue—the appropriateness of teaching styles to pupils' favoured learning strategies.

The project is due to be completed by the end of 1984. It is expected that its principal outcomes will be material and suggested activities for use in teachers' pre-service and in-service training.

Assessment of Mathematics 1983

G J Pollock, B Duncan (Principal Researchers), W G Thorpe, E Charleson, S Day, J Johnston, M Ireland

This study is intended to investigate the feasibility of monitoring standards in mathematics at the P4, P7 and S2 stages.

The work, which began in April 1982, represents an extension of the studies undertaken by the Council on behalf of the Scottish Education Department in 1978 and 1981.

A multi-matrix sampling procedure has been adopted, which will allow a more detailed examination of performance in particular areas of the curriculum to be undertaken. Sets of written tests, representing various aspects of mathematics, has been prepared for each age group. These sets contain sufficient items overlapping from previous studies to allow comparisons over time to be made. In addition, sufficient items appear in both P4 and P7 (or P7 and S2) tests, to allow comparisons by stage also.

Apart from evaluation performance at national and at school level, it is proposed to analyse individual performance in selected areas of the mathematics curriculum.

Approximately 120 classes (2,000 pupils) at the P4 stage, and 150 classes at the P7 and S2 stages (3,500 and 4,500 pupils respectively) are involved in the assessment.

Running in parallel with the written assessment, an experimental assessment of practical mathematical skills is also being carried out. Trained fieldworkers have visited approximately ⅓ of the schools

involved in the written tests and assessed pupils' ability to carry out simple practical operations. In each school between 5 and 10 pupils are involved in this aspect of the study.

Both the written and practical assessments were carried out in late May/early June 1983. Coding and preliminary analysis of the data is currently in progress.

Changes in the Fifth Year of School
A C Ryrie (Principal Researcher), J Hart

The purpose of this brief exploratory project which ran from October 1982 to March 1983, was to examine how some schools have adapted their fifth year curriculum to take account of the larger numbers of students returning for a fifth year, particularly students of relatively low academic achievement. The researchers paid brief visits to a number of schools in two Regions of Scotland, and then selected for more intensive enquiry three which had initiated developments of different kinds. Interviews were conducted with head teachers, with staff teaching new courses, and with groups of students. A report has been prepared which describes different approaches to the need to vary fifth year provision, and discusses some of the issues.

Falling Rolls in Scottish Secondary Schools—A Pilot Study
I MacFadyen (Principal Researcher), F McMillan (SRO: W B Dockrell)

This was a pilot project which ran from mid-October 1982 to April 1983. The general aim in establishing this project was to explore the phenomenon of declining numbers of pupils in secondary schools with a view to identifying a role, if any, that the Scottish Council for Research in Education might play. Specifically, the objectives of the study have been:

(1) To explore the relationship between organisation and curriculum change.
(2) To determine the effects of the phenomenon on particular groups—eg teachers.
(3) To highlight any changes to the decision-making process.
(4) To pin-point any changes to the range of educational opportunities available.

In order to ascertain the most relevant issues associated with the phenomenon, assistance and information were sought from all the landward educational authorities in Scotland. Two authorities provided detailed information regarding the implications and steps to be taken in those regions. In addition four schools were the subject of a study which comprised, in the main, open-ended interviews with staff, pupils and parents. The final report arising from the pilot study was completed by the end of April 1983. The main recommendation for the Scottish Council for Research in Education is that it should not devote major

investment to the area of study. Detailed school studies have already been carried out by Briault et al and the subject is one which has received a great deal of attention on the part of education authorities who are, generally speaking, well advanced in their preparations to meet the problems arising. More especially, falling schools rolls is only one of a number of factors which will influence the structure of secondary and further education in the present decade and the report therefore suggests that the Council should devote its attention to a study of the impact of these various influences and the changes they bring about, rather than to one relatively minor issue, falling school rolls.

The Scottish Restandardisation of the WISC-R (1982)
W G Thorpe (Principal Researcher), S Freshwater, D Scott (SRO: W B Dockrell)

The first Scottish standardisation of the Wechsler Intelligence Scale for Children was carried out by the Council in 1965, in response to doubts which had been expressed about the applicability of the scale to Scottish children. The WISC has been used extensively throughout the world since its first appearance in 1949. It was subject to a major American revision and restandardisation in 1974 and published as the WISC-R. The purpose of the present exercise is essentially similar to that of seventeen years ago: to update and restandardise the existing scale, and to make any necessary Scottish amendments to the content and wording of the questions.

An undertaking of this scope places considerable demands on a wide range of people. With the support and co-operation of principal educational psychologists in each region, and of headteachers of local authority, independent, grant-aided and special schools, the names of all children in Scotland who were born on specific dates are being collected. The co-ordination of the work and analysis of data is the responsibility of the Research Services Unit. The project as a whole is under the auspices of the Council, which has set up an advisory committee. Approximately 2,000 children will be tested. Alternative forms of some of the questions will be evaluated. The age range of children to be tested is seven years to fifteen years eleven months. The Committee recommended enhanced sampling of low and high ability children to check the functioning of extreme items, although it would probably not be appropriate to integrate these results with the main sample.

A random sample of children whose names have been received will be tested in four 'waves' over the period May 1983 to April 1984. Testing will be done on an individual basis by educational psychologists, subject to parental approval. The WISC-R manual and test material will be used, together with an instruction handbook and supplementary sheet for the information and comprehension sub-tests. The handbook and sheet have been compiled for the project. Testing materials and associated instruments are prepared and the first wave of tests is now underway.

The results of the research will be published in a form suitable for the use of psychologists and research workers. Permission to go ahead with the research and publication is by courtesy of Psychological Corporation of New York and NFER/Nelson.

Education for the Community in Community Schools (ECCS)
A Peacock (Principal Researcher), M Vallely, J Crowther (from July 1983) (SRO: A C Ryrie)

This project investigates alternative strategies for the provision of pre-school, youth, and adult education in five community schools previously studied, and as such builds on the team's existing knowledge in this area. In particular, it focuses on participants' perceptions of the value of the activities, the different ways in which they are planned and organised, and looks for links between the objectives, nature and perceived value of such activities.

The research initially involved discussion with the community education staffs in the five schools and their surrounding communities to establish the pattern of activity taking place, and the subsequent selection of cases for in-depth study. In each case, observation of the nature of the activity proceeds alongside interviews with a range of participants having different forms of involvement. Cases have been selected to give a wide spread of strategies, settings and experience; they therefore include some which are organised within schools, and others which are community-based but with school links.

Preliminary discussions have revealed that the extent and variety of provision is considerable and, given the length of the project, it is therefore difficult to consider as many cases in depth as would ideally be appropriate. However, it is hoped that, by examining the growing range of community-school linked provision from various standpoints, the findings will be of use in the formulating of policy in relation to these crucial fields.

Evaluation of the Lothian Region Ergonomics Project
M Corrie (Principal Researcher) (SRO: E Spencer)

SCRE is co-operating with the Lothian Region Educational Advisory Service in evaluating the take-up and practical use of teaching modules on Ergonomics developed by Dr Clive Andrews of Napier College. It is expected that different modules will be taught by teachers of Technical Subjects, Home Economics, Business Studies, Art, Physical Education and Science in several Lothian Schools, possibly as 'short courses'. There will be a 'light' evaluation of teachers' perceptions of the usefulness and difficulties, if any, of the modules. Information will be obtained by questionnaires or interviews and there will be some detailed description of the use made of the modules by one or two teachers. The project began in April 1983.

Induction, Assessment and Guidance in the Youth Training Scheme
A C Ryrie (Principal Researcher), J Hart

This project (which began in April 1983) is a one-year preliminary study of aspects of the Youth Training Scheme in colleges of further education. The object of the research is to examine, describe and compare arrangements made for the induction, assessment and guidance of trainees entering the Youth Training Scheme at four colleges, with a view to answering the question: How are trainees guided through the system?

The research is being conducted in four colleges drawn from amongst those which have been studied as part of the project on Further Education Colleges and Changing Student Needs. Contact is being maintained with the colleges over a period of months in order to monitor developments as they are taking place during the first year of the YTS. A report will be published at the end of the one-year project.

Pakistan Primary Education Project
Consultants: A C Ryrie (Co-ordinator), P Martin, G Siann

The Council continues to provide consultants to the Government of Pakistan, through the British Council, for the Evaluation of the Primary Education Project. Consultants in the area of achievement measurement, attitude measurement, demographic studies and qualitative studies have visited Pakistan to consult with the local research teams.

UNIT REPORTS

Research Services Unit
G J Pollock (Head of Unit), W G Thorpe, S Freshwater, D Scott

The Research Services Unit continues to provide a service for bodies working in the educational field. The work which the Unit undertakes can be classified under three main headings:

1 *Professional advice and consultancy—*
   (a) on the design and planning of research projects
   (b) on the evaluation of external research projects
   (c) on the selection and use of test materials
   (d) on the selection procedures for training programmes
2 *Statistical services and data processing—*
   (a) consultation and general advice on statistical matters
   (b) assistance in the analysis of data
   (c) validation of selection procedures
3 *Collaboration with other bodies in research projects*
   (a) service on research committees and steering committees

(b) collaboration in joint projects with external bodies
(c) the carrying out of surveys and other contract work for external bodies

Work carried out by the Unit in the past year includes

(1) The Second International Survey of Mathematics organised by the International Association for the Evaluation of Educational Achievement.
(2) Revision of the Wechsler Intelligence Scale for Children.

Schools' Assessment, Research and Support Unit
H D Black (Principal Researcher), (SRO: W B Dockrell)

As a consequence of our earlier work in diagnostic assessment and in other areas of school based assessment the Council has established a unit with three main remits. These are (1) To support local authorities in the dissemination of current findings on diagnostic assessment and school based assessment; (2) To pursue action research in areas of the curriculum where diagnostic assessment has already been shown to be both practicable and potentially valuable. In the first instance the main object will be the collaborative production of diagnostic tests and materials with interested teachers. At the research level this will provide further information on the problems associated with the production of a variety of diagnostic instruments as well as the potential for refining techniques for the evaluation of such instruments; (3) Further exploratory research on the potential of diagnostic assessment in areas of the curriculum which have hitherto not been investigated. The strategies and methodologies will clearly vary according to the area of the remit under consideration. The basic methodology will, however, be action research carried out in the collaborative mode with practising teachers; a methodology already proven in our early work in the area.

Eurydice
R. Wake (Information Officer), J Milne, (Head of Information Services: J L Powell)

EURYDICE is the Education Information Network of the European Community. It has been set up to facilitate the exchange of information between policymakers (at both national and local levels) in the member states of the EEC.

The Scottish Education Department is the Scottish national agency. However from April 1st 1983—initially for a period of one year—SCRE has agreed to undertake responsibility for supplying information about policy and practice in Scottish education in response to requests from the EURYDICE central unit in Brussels and to act as the contact point for enquiries from local authorities.

Four priority policy areas have been designated:

(1) Transition from School to Work; (2) Teaching and Learning of

Modern Languages; (3) Education of Migrants and their Families; and (4) Admission to Higher Education. A fifth category 'Major Policy Trends' may admit enquiries which fall outside these areas.

In the first two months of SCRE's operation on the task, sixteen requests were received from other EEC countries. It is part of SCRE's remit to encourage policymakers in Scotland to make more use of the network and thus develop their access to information about policy in other EEC countries.

SCRE SILVER MEDAL

The Council's Silver Medal, which is awarded annually to a Scottish researcher (or a non-Scot working in Scotland) in respect of published research work has, for 1983, been awarded to Rosamund Mitchell of Stirling University. Ms Mitchell is currently working on a project concerned with 'communicative' foreign language teaching in the first two years of secondary school.

SCRE RESEARCH PRIZES

These prizes are awarded annually for the two best non-doctoral theses in the field of education submitted to a Scottish university in the preceding year. Nominations for consideration by the adjudicating committee are made by the appropriate university departments. For 1983 the awards are as follows:

First Prize: Rosalind Russell (MEd, Glasgow) for "From Enlightenment Philosophy to Utilitarian Pedagogy: a study of Elizabeth Hamilton's philosophical ideas . . ."

Second Prize: Charles Weedon (MEd, Edinburgh) for "The Development of a Diagnostic Screening Instrument for the Assessment and Reporting of Writing Abilities".

CHANGE OF PUBLISHER

An important announcement covering the distribution of SCRE publications appears on p 8.

LIAISON WITH OTHER ORGANISATIONS, 1982-83, INCLUDING CONSULTATIVE AND ADVISORY SERVICES UNDERTAKEN BY STAFF

CCC Committee on Primary Education (J L Powell)
CCC Committee on Secondary Education (W B Dockrell)
Central Region Collaborative Research Advisory Committee (G J Pollock)
City and Guilds Policy Committee for Education and Training (W B Dockrell)
Dundee College of Education *Writing Across the Curriculum Project (Upper Primary and Secondary),* Advisory Committee (E Spencer)
ERCC Treasury Supported Users Committee (W G Thorpe)
International Association for Educational Assessment (IAEA), Executive Committee (Vice-President) (W B Dockrell)
International Association for the Evaluation of Educational Achievement (IEA), General Assembly (W B Dockrell)
IEA Mathematics, International Committee (G J Pollock)
IEA Transition From School, International Committee (G J Pollock)
IEA Mathematics, Scottish National Committee (W G Thorpe)
Lanark Division (Strathclyde) Steering Committee on Assessment (H D Black)
Moray House College of Education *Assessment in Home Economics Project,* Advisory Committee (H D Black)
Moray House College of Education Research and Development Committee (A C Ryrie)
Munn/Dunning Development Programme: Joint Working Party on English—consultant (E Spencer)
Napier College Experience-based Management Education, Validating Board (J Raven)
National Inter-College of Education Committee for Educational Research (E Spencer)
Pathways to the Professions Project, Advisory Committee (J Raven)
SCOTBEC Policy Review Committee (G J Pollock)
SED Language Monitoring Project, Steering Committee (E Spencer)
SERA Executive Committee (J L Powell)
Stirling University *Language Skills in English Project,* Steering Committee (E Spencer)
Stirling University Project on Multi-Disciplinary Courses, Advisory Committee (A C Ryrie)

PAPERS DELIVERED AT CONFERENCES

H Black

Diagnostic Assessment in Home Economics, In-service Conference on Assessment and Evaluation, National Association of Teachers of Home Economics Ltd.

M Corrie and S Zuklukiewicz

On from Special School, paper for national in-service course, Jordanhill College of Education, January 1982.

Leavers' Programmes in Special Education, paper for joint Lothian Region/Moray House in-service course, September 1982.

The Further Education for the Handicapped Project, Royal Association for Disability and Rehabilitation Seminar, London, February 1983.

W B Dockrell

Corporal Punishment—the Research Evidence, Annual General Meeting of the Lothian Federation of Parent and Parent-Teacher Associations, Edinburgh, 28 September 1982.

16-19 The Education of Young Adults, NICER Annual Conference, Belfast, November 1982.

Applicability of Standards for Evaluations of Educational Programs, Projects and Materials in an International Setting: Qualitative Research, AERA, Montreal, April, 1983.

Using Tests and Assessments, Annual General Meeting of the West Lothian/Local Association of the Educational Institute of Scotland, April 26, 1983.

Assessing the Expected Outcomes of Education: What Every Student Should Know and How to Assess It—A National Experiment, International Association of Educational Assessment, 9th International Conference, Blantyre, Malawi, June 1983.

J Hart

Changes in Fifth Year, St Andrews University/Dundee College of Education Annual Joint Conference for Headteachers, March 1983.

G J Pollock

Paper on *Cross-national Comparison of Change Data* delivered to the Vancouver meeting of the IEA Mathematics Committee, May 1983.

J Raven

Toward Computerised Guidance, Placement and Development Procedures, British Psychological Society and Institute of Electrical Engineers Conference on Man/Machine Systems, July 1982.

Identifying, Conceptualising, Fostering and Assessing Basic

Competencies in Education, Fifth International Symposium on Educational Testing, June 29-July 2, 1982.

The Role of the Psychologist in Promoting Economic and Social Development in Western Society, Seventh International Symposium on Research in Economic Psychology, Edinburgh, July 1982.

Value-Expectancy Measures of Motivation and their Sensitivity to Educational Experience, International Association of Applied Psychology (IAAP), Edinburgh, July 1982.

Educational Home Visiting and the Growth of Confidence and Competence in Adults and Children, IAAP, Edinburgh, July 1982.

Improving the Quality of life through Changes in Social and Educational Programmes, IAAP, Edinburgh, July 1982.

(with Saghir Shaikh) *The Evaluation of the Pakistan Primary Education Programme,* IAAP, Edinburgh, July 1982.

The Role of the Psychologist in Formulating, Administering and Evaluating Policies Associated with Economic and Social Development in Western Society, IAAP, Edinburgh, July 1982.

Progressive Matrices: Stability and Change in Western Society, IAAP, Edinburgh, July 1982.

The Case for Competence Based Education and Assessment, British Educational Research Association, St Andrews, September 1982.

An Adult Education Programme to Promote the Development of Competence and Competence in Adults and Children, British Psychological Society Developmental Psychology Section Conference, September 1982.

The Evaluation and Improvement of Provision for General Education, British Council/International Seminar on the Evaluation of Educational Programmes, London, January 1983.

Some Reflections on the Standards for the Evaluation of Educational Progress and Policies, American Educational Research Association, Montreal, April 1983.

(with Morris Graham, University of Hawaii) *Values and Competence Intra-Cultural and Cross-Cultural Variation,* Society for Intra-cultural Education and Training, Sangimignano, Italy, May 1983.

A C Ryrie

(with P Small) *Adjusting to New Courses and Students: some problems faced by FE Colleges,* Dundee University/MSC Conference on Education, Training and Work, September 1982.

E Spencer

Teaching Writing for Learning, British Educational Research Association, St Andrews, September 1982.

Learning, Revision and Writing, (Lecture and workshop material): Graduates' Course on Language Across the Curriculum, Jordanhill College, January 1983.

W G Thorpe

Paper delivered to the Toronto meeting of the IEA Mathematics Committee on the Scottish results, October 1982.

S Zaklukiewicz, see *M Corrie and S Zaklukiewicz*

Contributions to In-service Training

Throughout the year SCRE staff have continued to contribute to the in-service training of teachers. This included, in addition to participation in conferences and workshops, a day meeting for headteachers and advisers, organised jointly with Highland Region, which focused on the applications of some of the Council's recent research in the secondary school.

STAFF PUBLICATIONS

External

H Black

Programmed Learning and Educational Technology, Vol 20, 1, 1983 (Diagnostic Assessment edition), *editor*.

A Geography of Scotland, Cambridge University Press, 1983.

'Assessment for Learning', *Educational Analysis*, Vol 4, 1982.

'Introducing Diagnostic Assessment', *Programmed Learning and Educational Technology*, Vol 20, 1, 1983.

M Corrie

'Handicapped School Leavers: Optimism or Realism?', *The Scotsman*, 12.10.82.

W B Dockrell

'The Contribution of National Surveys of Achievement to Policy Formation' in *Social Science Research and Public Policy-Making*, (ed. D B P Kallen *et al*), NFER Nelson, 1982.

'Human Assessment—The Work of the Scottish Council for Research in Education' in *Human Assessment and Cultural Factors*. (ed. S H Irvine and J Berry), Plenum Press, 1983.

'Nuevas Reflexiones sobre la Investigacions Educativa, (ed. W B Dockrell and D Hamilton), Narcea, 1983.

J Raven

'Broadening the Base for Educational Assessment: Some Reasons, Some Problems and Some Suggestions', *Bulletin of the British Psychological Society*, Vol 35, 1982.

'Toward Computerised Guidance, Placement and Development Procedures', in *Proceedings of the BPS/IEE Congress on Man/Machine Systems*, London, 1982.

(with Frank Litton) 'Aspects of Civics Education in Ireland', CORE (*Collected Original Resources in Education*), Vol 6, 2, June 1982.

'Education and the Competencies required in Modern Society', *Higher Education Review*, Vol 15, 1982.

'Towards New Concepts and Institutions in Modern Society', *Universities' Quarterly*, Vol 37, 1983.

'Evaluating Standards', *Higher Education Review*, Vol 15, 1983.

'A Commentary on Official Reports on the Organisation of Research for the 80's', *Higher Education Review*, Vol 15, 1983.

'The Role of the Psychologist in Formulating, Administering and Evaluating Policies Associated with Economic and Social Development in Western Society', *Bulletin d' Information de Federation Belge des Psychologies*, Vol 4, 1, 1983.

A C Ryrie

'Schools and Socialisation into Work', *Educational Analysis*, Vol 3, 1981.

'Career Guidance through Relationships', *International J. for the Advancement of Counselling*, Vol 5, 1982.

'Intentions and Opportunities', *Careers Bulletin*, 1983.

E Spencer

'The Basics of Teaching Writing', *Teaching English*, May 1983.

Internal

Books written by H Black, A C Ryrie and E Spencer and published by SCRE are listed in the general list of SCRE publications at the end of this report.

Issue 28 of SCRE's newsletter *Research in Education* included an article by J L Powell relating to the advantages and limitations of both case studies and surveys; Issue 29 included articles by A C Ryrie and E Spencer relating respectively to the Awareness of Opportunity Project and the Writing Across the Curriculum Project. Copies of these and earlier newsletters, also of Issue 30 (August 1983), will be supplied on request. Requests for regular mailings should be addressed to the Assistant Director.

Scottish Council for Research in Education

ACCOUNTS FOR THE YEAR ENDED

31st MARCH 1983

BALANCE SHEET AS AT 31st MARCH 1983

	£	*1983* £	*1982* £
Fixed Assets			
Tangible Assets:			
Office Furniture, Furnishings and Equipment (Note 4)		15,150	5,100
Current Assets			
Sundry Debtors	45,216		35,083
Cash at bank and in hand:			
Cash on Deposit	1,494		1,382
Cash in Bank Current Account	60,249		65,799
Cash in Hand	45		119
	107,004		102,383
Creditors: amounts falling due within one year			
Sundry Creditors	40,436		23,338
Net Current Assets		66,568	79,045
Total Assets less *Current Liabilities*		81,718	84,145
Capital and Reserves (Note 5)			
Publications Fund		20,000	21,000
Maintenance and Replacement Fund		5,500	4,500
General Fund		56,218	58,645
		81,718	84,145

John Hume, *Member of Council*

Hugh Fairlie, *Member of Council*

Scottish Council for Research in Education

INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31st MARCH 1983

	Note	*1982-83* £	*1981-82* £
Income			
Support Grants and Donations	1	315,737	299,678
Contributions towards Cost of Projects	2	234,750	294,419
Other Income	3	360	2,181
Interest on Deposits		160	991
		551,007	597,269
Expenditure			
Specially Funded Research Projects	2	269,341	336,803
Other Projects, Services and Grants	3	115,538	92,708
		384, 879	429,511
General Expenditure —balance after allocation of £34,182 (1981-82 £28,718) to Research Projects and other services		168,555	149,505
		553,434	579,016
(DEFICIT) SURPLUS for Year	5	(2,427)	18,253
NOTE: General Expenditure includes:			
Depreciation		8,768	3,095
Hire of Equipment		—	1,274
Audit and Accounting Fees		3,565	3,341

REPORT OF THE AUDITORS TO THE MEMBERS OF
THE SCOTTISH COUNCIL FOR RESEARCH IN EDUCATION

We have examined the foregoing Balance Sheet, Income and Expenditure Account, and the attached Notes on Accounts which have been prepared under the historical cost convention. In our opinion the Accounts comply with the Companies Acts 1948 to 1981 in so far as the provisions of these Acts apply to these financial statements, and together with the Cash Account give a true and fair view of the state of affairs of the Company as at 31 March 1983 and of the Deficit and of the Source and Application of Funds for the year ended that date.

ROBERTSON, CARPHIN & CO, CA.
Edinburgh, 21st June 1983

ACCOUNTING POLICIES

A. *Basis of Accounting*
The Council is constituted as a company limited by guarantee and to comply with normal Companies Act accounting conventions, prepares its accounts on the historical cost basis using the accruals concept.

B. *Depreciation*
Office furniture, furnishings and equipment are depreciated by an overall annual charge, with a view to writing down the assets to approximate scrap value at the end of their estimated useful lives.

C. *Taxation*
The Council has charitable status as an educational body and accordingly has no Corporation Tax liabilities on revenue surpluses or untaxed interest.

D. *Publications Fund*
In order to avoid depletion or distortion of the Council's income and expenditure in any one year, the costs of publishing research findings are normally charged to the Publications Fund. The Fund is maintained from sales of these publications as and when they take place, from grants, and from periodical transfers from the Income and Expenditure Account. No value is placed on stocks of unsold publications.

E. *Maintenance and Replacement Fund*
The Maintenance Fund has been set up to meet extraordinary expenditure.

F. *Statement of Source and Application of Funds*
To comply with a standard accounting practice, the Council should prepare a statement showing the source and application of funds. The format normally used by commercial organisations is not considered appropriate for the Council, and Note 7 summarises cash transactions (Receipts and Payments) for the year in a way which it is believed satisfies the objectives of the standard accounting practice referred to.

NOTES ON ACCOUNTS

1. **Support Grants and Donations**		*1982-83*	*1981-82*
		£	£
Scottish Education Department		304,000	274,258
Less: Special Grants—			
Moray Place Expenses		—	4,258
Equipment		20,000	—
		284,000	270,000
Scottish Regional Education Authorities	£		
Borders	575		
Central	1,566		
Dumfries and Galloway	841		
Fife	2,062		
Grampian	2,801		
Highland	1,114		
Lothian	4,215		
Shetland	120		
Strathclyde	13,600		
Tayside	2,300		
Western Isles	183		
Orkney	115		
		29,492	27,524
Educational Institute of Scotland		1,500	1,500
Local and District Association of Educational Institute of Scotland:			
Aberdeen	10		
Shetland	5		
Banff	60		
Ettrick	10		
Fife	30		
Gordon	30		
Kincardine and Deeside	10		
West Lothian	50		
		205	264
Other Grants			
Scottish Educational Research Association	500		
Association of Assistant Headteachers Early Education	40		
		540	390
		315,737	299,678

2. **Specially Funded Research Projects**	*Expenditure* £	*Recoverable* £
SSRC		
Perceptions of School Based Assessment	5,003	4,786
After School*	23,525	20,562
SED		
Awareness of Opportunity**	12,212	3,854
Diagnostic Assessment in Secondary Schools	626	—
1983 Maths Assessment	30,559	28,189
Open Plan and Other Areas in Secondary Schools	807	—
Primary Survey and IEA Replications	651	342
Further Education Colleges and Student Needs	22,761	22,761
Non Formal Education	21,776	20,702
Further Education for the Handicapped**	30,842	16,509
Commentary on Primary Teaching Practice	6,188	5,735
1983 Mathematics Practical	4,213	4,213
Youth Training Scheme	145	145
SED/Local Authorities		
Writing Across the Curriculum Phase II	24,319	23,740
Lanarkshire Assessment Programme	21,122	20,506
Local Authorities		
Evaluation of Lothian Community Schools	10,292	10,015
Others		
Pakistan Primary Education	12,520	12,067
Evaluation of Craigroyston Curriculum	32,450	31,570
Evaluation for the Community	9,330	9,054
	269,341	234,750

*Project jointly funded by SED and SSRC
**Project jointly funded by SCRE and Sponsor

3. **Other Projects, Services and Grants**		
Research Services Unit		
General Services	29,762	248
IEA Mathematics Survey	18,142	—
WISC Revision	4,509	—
Information Services and Library	37,360	112
Grants	500	—
Teaching Strategies in the Primary School	4,372	—
Changes in the Fifth Year	3,872	—
Falling School Rolls	12,021	—
Eurydice (Reserve)	5,000	—
	115,538	360

Explanatory note on Expenditure

Expenditure includes, in addition to the direct costs and recoverable overheads, a proportion of senior staff costs not normally charged to the sponsoring body.

4. **Office Furniture, Furnishings and Equipment Cost**	*1982-83*	*1981-82*
	£	£
Cost at beginning of year	25,633	28,048
Expenditure during year	38,818	2,470
	64,451	30,518
Disposals	—	4,885
Grant from SED	20,000	—
Total Cost at 31.3.83	44,451	25,633
Depreciation		
Balance at beginning of year	20,533	21,598
Eliminated in respect of disposals	—	2,383
	20,533	19,215
Depreciation charge for year	8,768	1,318
Balance at 31.3.83	29,301	20,533
Cost less Aggregate Depreciation	15,150	5,100

5. **Movement of Funds**		
Publications Fund		
Transfer from Income and Expenditure Account	1,302	2,957
Income During Year	12,639	19,808
	13,941	22,765
Less Expenditure	14,941	16,765
	(1,000)	6,000
Fund at beginning of year	21,000	15,000
Fund at end of year	20,000	21,000
Maintenance and Replacement Fund		
Transfer from Income and Expenditure Account	1,000	2,000
Fund at beginning of year	4,500	2,500
Fund at end of year	5,500	4,500
General Fund		
Fund at beginning of year	58,645	40,392
(Deficit) Surplus for year	(2,427)	18,253
Fund at end of year	56,218	58,645

6. **Employees**

The average number of persons employed in each week of the financial year was 39 (42) and the aggregate remuneration was £377,115 (£387,183)

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7. **Cash Account for Year ended 31 March 1983**

Receipts	*1982-83*	*1981-82*
	£	£
Support Grants and Donations	316,204	299,678
Interest and Miscellaneous Income	472	1,328
Sales of Publications	11,529	18,914
Sales of Furnishings and Fittings	—	725
Contribution to Specific Non-recurring Expenses:		
Moray Place Expenses	—	4,258
Equipment	20,000	—
Recovery of Project Costs	225,236	305,357
	573,441	630,260
Payments		
General Expenditure—		
Salaries and Other Employment Costs	129,096	108,442
Accommodation	33,512	41,821
Other	18,999	34,688
Research and Information Services	52,973	45,252
Publications	6,140	15,829
Capital Expenditure and Equipment	39,123	2,470
Removal Expenses	—	3,398
Moray Place Expenses	—	4,258
Expenditure on Specific Research Projects (including SCRE "Internal Projects")	299,110	344,275
	578,952	600,433
Excess (Deficit) of Receipts over Expenditure	(5,512)	29,827
Opening Balance of Cash Funds	67,300	37,473
Closing Balance of Cash Funds	61,788	67,300

Note: Differences between cash receipts and payments and the figures in the Income and Expenditure Account reflect the "accrual basis" used in the latter account—expenses unpaid at the year end appear as creditors and sums due not yet received in cash appear as debtors in the Balance Sheet.

Occasional Paper

TEACHING WRITING FOR LEARNING

A paper delivered in the conference of the British Educational Research Association, St Andrews, September 1982, by Ernest Spencer, Senior Research Officer, SCRE. The topic of this paper is dealt with more extensively in Writing Matters *(SCRE, 1983) and* Written Work in Scottish Secondary Schools *(to be published by SCRE later this year).*

PERSPECTIVES AND METHODS

This paper summarises some of the findings of a descriptive study by a SCRE team of writing in all subjects in Scottish secondary schools.[1] Several foci of interest were identified in the information collected during the study: three of them are sketched and discussed, though necessarily briefly in a paper aiming to convey some sense of the range of concerns which emerged during the study.

The project was intended to relate the reality of writing in school to theoretical developments, in particular to schools of thought about two issues: the process of learning to write and the place of writing in acquiring, retaining and using knowledge in the various school subjects.

Much has been done by James Britton, Douglas Barnes, Harold Rosen[2] and others to make available to teachers insights into the function of language in learning. Britton and his colleagues at the London Institute of Education had offered a categorisation of developmental stages which had quickly been adopted as a basis for a pedagogy of writing by teacher trainers and advisers. The central idea in the work of Barnes and in that of Britton and his colleagues was that learning in general and the development of writing skills occur only when "the learner's own language"—which he has gradually acquired in an unforced manner, from reading, listening and previous language use—is engaged in grasping a new piece of information or in expressing his unique perception of a topic or his ideas and feelings about it. Britton's work had also illuminated two key factors in the process of writing: awareness of the function of the writing, and of its likely audience.

The pedagogy implied in Britton's work emphasises stimulus and motivation, advocates orientation to function and to audience, and eschews any attempts to give pupils "new language". On the other side of the Atlantic, other researchers, working in a tradition more heavily committed to the teaching of rhetoric in one form or another, had been investigating the cognitive problems met by writers while trying to achieve their intentions in respect of function and audience. Some of these investigators had adopted an information-processing model and had concentrated on the adequacy or inadequacy of the writer's "resources" (ie, the strategies and language forms he can bring to bear) for solving the problems involved in "processing" (or conveying) the

"data" (the message to be communicated). From the research of Carl Bereiter, Marlene Scardamalia and others there had emerged a developmental theory of the cognitive processes involved in solving these problems. These two authors, however, were also concerned to help teachers to find the best ways of intervening to speed development and they advocated a pedagogy which shifted the emphasis from "stimulus for writing" to "consequence of writing". Another major aim of teaching, they had argued, should be to make the young writer conscious of working separately at each of the several steps and processes involved in producing a piece of writing. The complexity of the act of composing text is in this way reduced, so that the learner-writer has the opportunity to make automatic the crucial skills, without the pressure of having to deal with all of them together. The concept of "skills" here is not a simple one: its core is the idea that writers move from one to another of *five* levels while dealing with the problems they meet: these are *Intention, Strategy* for achieving it, *Content* appropriate to the Intention and the Strategy, *Language* similarly appropriate, and *Revision* of work done at any of the other four levels.

How did these theories of writing and the pedagogical advice deriving from them fit into the practice of teachers and pupils in schools? Although both Britton and Bereiter worked with some English teachers and collected data from schools, neither they nor anyone else had carried out a thorough study of *current* "pedagogy of writing" in its totality, as actually practised across the curriculum. There was a need to know where both teachers and pupils actually stood in relation to theories of writing and of learning. What did they believe and what did they do?

The primary aim of the project was, therefore, to describe as fully as possible pupils' total experience of writing, including the various demands made on them in all their school work, the place of written work amid other classroom activities, the purposes of the tasks set, the guidance given by the teachers (if any), and the criteria to be applied in assessing the writing. Both teachers' and pupils' perceptions of quality in writing, of the nature of writing skills, and of the function of writing in the process of learning subject material were considered to form part of the relevant context.

The approach was "illuminative", seeking to document what happens in the schools which is at all relevant to the basic concern, writing by pupils. The information gathered was sifted and categorised with a view to identifying key factors in the pupils' school writing experience. The "focusing" process involved the inference from the data of the teachers' and the pupils' "theories" of writing in school and the mapping of their concepts and their practice against a range of reference points drawn from "established", more comprehensive theories of learning and of education. These reference points were derived from the work of behaviourists, of cognitive psychologists (including Ausubel, Pask and Entwistle), of proponents of the idea of "education as initiation" (R S

Peters) and of "progressive" educationalists (Dewey, Hodgkin, Carl Rogers). In particular, the teachers' and the pupils' views and activities were considered in the light of theories of writing, principally those of Britton and Bereiter/Scardamalia.

The data-gathering was in two stages:

(i) *Survey* of written work in one week by 300 pupils, S2, 3 and 4* (3 pupils in each of 100 randomly chosen schools. This is about 22% of Scottish secondary schools.) Pupils' work was xeroxed daily and posted to the research team for categorisation and quantification.

(ii) *In-depth studies* of 30 pupils' written work and its whole context for one month in each of 8 schools. (S2, 3 and 4). Information was obtained in these schools by the following methods:

(a) Daily collection of pupils' xeroxed work for later categorisation and quantification.

(b) Detailed record maintained by the teachers of the circumstances in which written work was set in every subject. This record covered the type of writing set, the purposes of the work, its readership, immediate pre-writing activities, guidance given, and the criteria of success to be applied.

(c) Questionnaire for the teachers, with follow-up interviews. The aim here was to clarify their concepts of teaching, learning, language and writing in their subjects, and their ideas about the inter-relationships among these four activities.

(d) Structured interview with the pupils, seeking their views on various aspects of school writing, including its functions, their idea of success in it, and their difficulties with it. Impressions were also obtained in these interviews of the pupils' perceptions of the amount and the nature of the teaching which they received.

(e) Limited non-participant classroom observation of each teacher involved. This provided valuable insights which enabled the researchers to question the teachers relevantly in the interviews.

FINDINGS: THREE FOCI OF ATTENTION

What was written, why, and in what circumstances?

The project was in no way concerned with assessment of the quality of pupils' writing only with the nature of it, its purpose, and the help they received to do it. There is, therefore, no implication in the findings about standards of performance in writing. If *teaching* writing is important, however, the picture emerging from the research is a rather depressing one.

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*These classes are equivalent to Classes 3, 4 and 5 in England and Wales and to Grades 8, 9 and 10 in the USA.

Types and amounts of writing

There was much variation in the amount written in various categories among individual pupils, but, overall, about half of what was written in the 8 schools was Copied or Dictated and about a quarter consisted of Short Answers (single sentences, or "fill-in-the-blank"). The remaining quarter was continuous writing in the pupils' own words, but more than half of it was short—a few lines only per task. Almost all continuous extended own words writing (ie, of more than one page at a time) was done as part of English work. Such extended writing constituted about 10% of the total output. (Even in English, during the week of the survey, 70% of the 265 pupils involved did not write more than one page of continuous writing in any task.) There was little demand for continuous writing from most teachers.

Purposes of writing

Yet, there was a general concern about writing. Teachers regarded it as an important skill, needed either for developing pupils' clarity and logic as thinkers, or for self-expression, or for functioning effectively in society. They also had some idea, albeit partial, of relationships between language and learning and between writing and learning. Some teachers saw the value in writing of engaging the pupils' mind very actively in thought about what was to be learned—and a few pupils did too. Most teachers and pupils, however, emphasised the memorisation and recall of factual information when speaking of "learning" and so thought of writing primarily as a way of communicating information to the learner or of showing the teacher that the information could be recalled. Accordingly, the most frequent purposes of written work were to store information for revision, to reinforce memorisation, and to allow the teacher to assess knowledge or understanding.

Teachers' sense of responsibility

General concern led most teachers to feel some responsibility for teaching writing. Usually, however, a teacher who was not an English teacher perceived his responsibility as pertaining only to certain aspects of writing, as required in his subject: the skills most often mentioned were "clarity and accuracy of expression", "organisation of material", "summarising or taking notes on information" (as well as neatness and correct spelling, grammar and punctuation). Most teachers said they corrected pupils' work with regard to all these points. In practice, however, the real criteria a pupil had to meet to satisfy most teachers seemed to be factual correctness and a vaguely defined "organisation". Except in English, there was little concern that pupils should find their own way of expressing information or that they should be involved in the thinking and writing task in a highly motivated way. There was also little real concern for grammar, spelling and, especially, punctuation, except in Languages and Business Studies.

Guidance given

Guidance given to pupils on written work consisted mainly of brief advice explaining what to do in tasks which did not make a heavy demand on writing abilities. There was some reliance on past experience of similar tasks and of models of good writing to be imitated (these might be the teachers' notes or worksheets, or text books). If it was a fairly extended piece of writing that was to be produced, a structure might be given. There was usually reference to the purpose of the writing, which was most often to contribute in some way to memorising the subject content.

Orientation to reader

Orientation to a reader, however, was of very little importance in writing in our schools, except to "the teacher as examiner". A good deal of pupils' writing—the copied and short answer work, especially—was not in fact read and responded to by the teacher.

What did they think they were doing?

As indicated above, most of the teachers accepted responsibility for teaching writing skills and recognised the importance of writing both generally in society and in the process of learning in their subject. Their perception of the nature of writing was, however, fragmented. Individual teachers tended to mention only one or two skills for which they accepted responsibility—often "organisation", "clarity" or "succinctness"—and there was certainly no coherent set of ideas about the function or the teaching of writing *common* to teachers of various subjects. The overriding impression was that, at heart, many teachers regarded writing skills as part of a "general ability" beyond their influence. There was, indeed, little evidence that any action other than exhortation was taken to develop the writing skills which teachers did identify as necessary in their subjects.

The views and practice of English teachers, not surprisingly, showed more theoretical influences—from rhetoric, from behaviourism (there were still the occasional "drill" exercises) and from the work of various British proponents of interesting stimuli, personally significant purposes and orientation to audience. Such concerns were not, however, universal even among the English teachers, some of whom set tasks obviously designed simply as practice for the public examination in S4. It was particularly clear that even most of the English teachers did not diagnose the problems met by pupils *during* the writing.

The pupils, like many of their teachers, lacked a sense of what was involved in learning to write or being taught to write. Some claimed that nobody in the secondary school taught them to write and most could not specify with much clarity how teachers might help them more effectively. Many were vague about the purposes of the written work they did in school. There was a wide range of opinions among the pupils about

"quality" in a "good piece of writing" they had done. It was possible, however, to discern two central concerns in the same pupils' answers. One was for the expression of *personal* meaning—their own view of whatever the topic was. (This despite the few opportunities they actually had for such writing.) The other concern was with the difficulties of expressing that meaning clearly, cleverly, "with effect" and neatly. The wish to find the secret of "how to do it" recurred again and again.

The researchers sought to relate the teachers' and the pupils' imprecise and fragmentary theoretical ideas and their concerns about writing to a set of pedagogical principles derived from the conception of writing as a "search for meaning". "Searching for meaning" involves excitement of mind and of emotions and awareness of language as the manipulable means of overcoming the problems of achieving and conveying meaning.

This view of writing accommodates apparently conflicting ideas from the British and Canadian camps about the help needed by developing writers. The resolution of the conflict—if there really is one—between the approaches of Britton and Bereiter lies in conceiving of writing as indeed a problem or set of problems to be solved, a significant one among them being that of self-expression, but not only of one's feelings—also of one's thoughts, ideas, knowledge and values. The "self" which is expressed in writing incorporates also what one knows *about writing*—all the knowledge of and practice in the various strategies and skills involved in the production of the text. Writing is not an easy, natural medium of communication for the purely emotional "self"; nor is it a totally mechanical means of conveying objective information. It is one way (not the only one) of making one's self; that is, the successful employment of *chosen* words and structures in pursuit of intentions records the fact that the writer thought hard to find means of communicating what he has communicated and that his command of those devices of language has become part of him, along with his feelings and ideas about the topic in question.

How could teachers proceed to help pupils "search for meaning"? What practical action implied by research on learning and on writing could be undertaken in schools?

Four types of necessary activity have been identified. Together they constitute a pedagogy which is based on Bruner's[3] complementary concepts of command of a structure of central ideas and informed yet exploratory "tryouts" or guesses.

(a) Behavioural and cognitive research has consistently shown that a clear idea of the aim, a sense of what one is trying to learn or achieve, is helpful to learning. Our finding, that many pupils lack such a grasp of what they are about when trying to write, suggests that there is a need for the inculcation in pupils of a "learning set" in respect of writing. They need a confident attitude towards it and a realisation that they *can* learn to write, and that things they do in school are part of so doing. Ausubel's concept of "anchoring ideas" is useful here.[4] By various means, teachers

should seek to "anchor" certain key notions about writing in pupils' minds, to give them as full a mental picture as possible of what they are doing when writing. The relevant notions are derived from both developmental and cognitive studies of the writing process. Pupils should come to know that writing is a complicated business with several problems to solve, but also that its component processes *can* be thought about and dealt with separately. A crucial point is that qualities in writing (such as, eg, "organisation" or "accuracy") cannot be taught directly, but are the result of certain kinds of mental activity on the part of the writer. Teaching means arranging things so that these activities occur.

From the work of Bereiter and Scardamalia[5] we can draw the five kinds of mental activity involved: *Intending,* finding a *Strategy,* finding *Content,* finding *Language, Revising* any of the other four. Helping pupils to realise that they can operate on each of these aspects of writing separately involves making them reflect on their orientation to themselves and their feelings and ideas, to the purpose of their writing, to its topic, to the reader. It involves also consideration of how information, events, ideas and people in the writing are related to each other, and of a *choice* of strategies and language forms, the selection being made with a view to the *effect* on the reader. It is proposed that teachers should return again and again to these central ideas, not only in guiding and assessing pupils' writing, but also by initiating various activities, game-like whenever possible, which oblige the pupils to analyse their own and others' language use and strategies for writing. Occasional direct explanation by the teacher of the skills involved in writing is also suggested.

(b) All attempts to sensitise the pupils to the problems of writing will, however, be as nought unless there is also much practice in writing at length for a range of purposes—with more emphasis than we found in the schools on purposes requiring the pupil to *compose* (rather than just copy or respond). The pupil must be motivated regularly (by an interesting stimulus, a real purpose and audience, and, if possible, talk, engagement with an issue . . .) to undertake a complete writing task, in which he trusts himself to be able to call up some of the skills which activities under (a) above are designed to develop. Ultimately, what matters in development as a writer is facing and defeating real writing problems. Or, to put it in terms used by learning theorists, "time on task" is the crucial factor.

(c) The third type of pedagogical action is "on the spot" guidance while the pupil is engaged in the writing task. Even more than in the two types of activity previously described, the teacher here needs careful judgment of how much intervention is needed. There is, however, a range of possibly useful contributions he can make. These include encouragement of genuine pre-writing reflection and planning (or the setting up of activities which require such planning), reminders of

previous relevant experience and of suitable models, and specific orientation to purpose and reader. The teacher may also be required to redefine the task to make its purpose clearer to some pupils. He may direct pupils to sources of information (or of the corrent spelling of words). He may, however, sometimes, judge that it is best to intervene as little as possible once the pupils are into the work.

(d) Finally, assessment. The first need is to turn the pupils into sensible critics of their own writing, to make them realise that editing and redrafting are the final steps in fulfilling a desire to get it right. This concern does not, however, exclude assessment by the teacher, which should be much more positive than the typical "superficial" marking of errors and global comment which we observed in the schools. "Positivity" in assessment lies in attempts to *describe* what the pupil has successfully achieved, and what he has tried to do, even if he has not brought it off maturely. Ultimately, the aim of good "diagnostic" or "teaching" assessment is to get as accurate an idea as possible of what was going on in the pupil's mind as he wrote, for it is from that point that progress can be made or "growth" can develop. Assessment thus should incorporate all the teacher knows about the pupil's way of thinking in the process of writing, as well as evaluation of the qualities in the product, and the feedback should be in the form of a dialogue with the pupil, rather than the laying down of precepts by the teacher.

A further important function of this descriptive assessment may be to help the teacher to decide on the next challenge to be set before the pupil. This might be devised to fit into a current interest in an area of content, or to make the pupil try to write for unfamiliar but potentially valuable purposes, or to push him towards another attempt at using approaches or techniques he has shown awareness of but has not yet mastered.

* * *

The pedagogic principles set out here are not thought of as applying only to writing in English classes. Teachers of other subjects who wish pupils to produce "concise", "clear", "accurate", "well organised" writing can also help pupils to achieve these qualities by designing activities which require and give practice in the appropriate mental skills.

Constraints on teachers' action

A recurring theme among the teachers' answers and comments throughout the project was that, despite their concern for (some) writing skills, they lacked both freedom to plan course elements which could include the teaching of these skills and the time to fit them in. Their sense of the pressure of the bulky syllabus to be completed in their subject and their perception of the writing demands of the public examination led many of them to the belief that there was no room for teaching writing or for pupils' own words extended writing. (The writing demands at SCE

'O' Grade in S4 in many subjects are indeed few, most questions being multiple-choice or requiring only short answers.) These concerns, combined with views of learning and knowledge which tended to emphasise factual recall rather than "personal meaning", help to explain the large amount of copied work collected.

Some other factors influencing teaching could, however, be discerned in the data. Prominent among them were the teachers' idea that writing was a "general ability" and the adjustment of their expectations if they perceived a pupil's "general ability" to be low. These points seemed to be related to both the acceptance by teachers of poor written work by some pupils and the prevalence of "Short Answer" work among low-achieving pupils: difficulties for the pupils were avoided by designing worksheets with pre-structured answers requiring "fill-in-the-blank" or completion items. Ironically, attempts in some schools to deal with another central issue for teaching may have compounded the problems for the teaching and use of writing in various subjects. S2 Science courses in all the schools, and a fairly large proportion of all the courses in one school, were designed on a "mastery" model, intended to individualise learning; but they achieved the opposite of this effect as far as learning to write was concerned, since they imposed the same limited, short answer writing on everybody, in order that checks could be made on the pupils' comprehension of each small unit of knowledge.

Another interesting explanatory factor was the suggestion from some teachers that their lack of real commitment to teaching writing in their subject stemmed from their recognition of the smallness of their own need as adults to write at length and, in a few cases, from their own diffidence as writers. Even less explicit than these influences, but almost certainly relevant, was the likelihood that many teachers were happy not to have large amounts of written work to evaluate.

Finally, the researchers looked for but failed to find evidence of any coherent policy in respect of writing in any of the eight schools, either at school level or at subject department level.

How could schools be helped to minimise the disadvantages and maximise the advantages of these influences and constraints on teaching? One approach would be to adopt a radical position (from which, for instance, it might be argued that the public examination should be abolished, because of its baneful influence). Rather than this, however, the researchers have proposed two kinds of action which seem feasible within the framework of the existing structures. The first seeks to persuade individual teachers that there is much to be gained from teaching "writing for learning" in their subject, using a range of resources drawn from various schools of thought about writing, perhaps linking this work specifically to revision techniques prior to examination. The other proposed action bears on the management of the curriculum within subject departments and in the school as a whole. The intention is to try to plan and control at least one or two courses in such a way that

the relevant "managers" in the school—the head of department or the school's Board of Studies—influence not only the time and resources available, but also the balance of activities, skills and types of learning occurring during the course. This might be achieved by a combination of in-service "sensitization" of the teachers to the teaching of writing skills, requirements that course plans and description of actual teaching be submitted to discussion and critique, and supportive interaction with the teachers during the course.

In some quarters, of course, such "interference" might be regarded as a radical and totally unacceptable proposal. Yet there is already occurring in Scottish schools a change in attitude to collaborative planning and to critique by colleagues, resulting from the large-scale development of new "Foundation" courses for pupils not entered for the SCE "O" Grade examinations. Our proposals in respect of teaching writing for learning can fit easily into the more general developments intended to foster learning across the curriculum by all pupils.

NOTES

1. See SPENCER, E, *Writing Matters across the Curriculum*, Edinburgh, Scottish Council for Research in Education, 1983 and *Written Work in Scottish Secondary Schools*, Edinburgh, Scottish Council for Research in Education (forthcoming).
2. See in particular BRITTON, J *et al*, *The Development of Working Abilities*, London, Macmillan Education, 1975 (pp 11-18); BARNES, D, *Language, the Learner and the School*, London, Penguin Education, 1969.
3. See BRUNER, J S, *Towards a Theory of Instruction*, Harvard University Press, 1964.
4. See AUSUBEL, D P *and* ROBINSON, F G, *School Learning*, New York, Holt Rinehart and Winston, 1969.
5. See BEREITER, C, SCARDAMALIA, M *and* FILLION, B, *Writing for Results*, Toronto, Ontario Institute for Studies in Education, 1981.

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1982

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Education and . . .
Education Overseas
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Health Education
History of Education
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